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Client/Matter: 082123 0275721

REMARKS

Claims 6-12 are pending. By this Amendment, the specification is amended; claims 1-5 are cancelled without prejudice or disclaimer; claims 6-8 are amended and claims 11 and 12 are added. Reconsideration in view of the above amendments and following remarks is respectfully requested.

Claims 1-10 were rejected under 35 U.S.C. §112, second paragraph. Claims 1-5 have been canceled without prejudice or disclaimer, thus rendering moot the rejection of those claims. Claim 7 has been amended in accordance with the suggestion of the Office Action to recite that the image data of a defective pixel has a value larger than a first coefficient times a maximum value of image data of adjacent normal pixels in the space filter or a value smaller than a second coefficient times a minimum value of image data of adjacent normal pixels in the space filter. The amendments are supported by the application as originally filed, for example, on page 5, lines 9-22.

Reconsideration and withdrawal of the rejection under 35 U.S.C. §112, second paragraph are respectfully requested.

Claims 1-10 were rejected under 35 U.S.C. §102(e) over Li (U.S. Patent 6,453,068). The rejection is respectfully traversed.

Claim 6 recites an apparatus, for use with an image sensor having an array of pixels each which outputs digital image data corresponding to one or more characteristics of light incident thereon, for detecting and compensating for a defective pixel, the apparatus comprising a defective pixel detection circuit constructed and arranged to determine whether a target pixel is defective based on check condition and a compensation circuit constructed and arranged to compensate the image data of a target pixel deemed to be defective and output compensated image data. The defective pixel detection circuit includes a two-dimension space filter for receiving the image data fed thereto from a second line memory, the image data inputted into the second line memory from a first line memory, the image data provided to the first line memory from each pixel on a line-by-line basis and respectively storing each of the digital image data in a first set of lines, a second set of lines, and a third set of lines.

Li discloses a digital image processing system 10 including an image input unit (e.g. a scanner) 12 that inputs an image into an image processing unit 14 for edge enhancements with luminance channel overshoot control. The image processing unit 14 outputs processed

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digital image data in a suitable format to an image output terminal 16, such as a storage device, a digital printer, and/or visual display.

The image processing unit 14 includes a spatial filter F that is a finite impulse response (FIR) filter that alters the value of a centrally located subject pixel P based upon the original values of all other neighborhood pixels. (See column 5, lines 57-60.) The filter F is applied to each pixel P in the image I for image enhancement operations. (See column 6, lines 5-6.) To make the image I more visually appealing, FIR filtering is carried out on the original image I to enhance the edge region E and other edge regions. (See column 6, lines 22-24.)

After enhancement, an overshoot control unit 50 reduces the enhanced value of the pixel P if it exceeds a local maximum value, and increases the enhanced value of the pixel if it is below a local minimum value. (See column 8, lines 47-53.)

Li does not disclose or suggest a defective pixel detection circuit including a two-dimension space filter for receiving image data fed thereto from a second line memory, the image data inputted into the second line memory from a first line memory, the image data provided to the first line memory from each pixel, and respectively storing each of the data image data in a first set of lines, a second set lines and a third set of lines, as recited in claim 6. The filter F of the Li alters the value of a centrally located pixel P based upon the original values of all other neighborhood pixels (see column 5, lines 57-60) and does not receive image data fed thereto from a second line memory which is inputted into the second lines memory from a first line memory, and respectively store each of the digital image data in a first set of lines, a second set of lines, and a third set of lines.

As Li does not disclose or suggest all the features of claim 6, Li cannot anticipate or render obvious claim 6.

Claim 7-11 recite additional features of the invention and are allowable for the reasons discussed above with respect to claim 6 and for the additional features recited therein. For example, claim 7 recites that the defective pixel determination signal represents that the image data of the target pixel has a value larger than a first coefficient times a maximum value of the image data of adjacent normal pixels or a value smaller than a second coefficient times a minimum value of image data of adjacent normal pixels in the filter. Li does not disclose or suggest generating a defective pixel determination signal as recited in claim 7. What Li does is enhance the image data of each pixel and then compensate for enhanced image data which either exceeds a local maximum or is below a local minimum by

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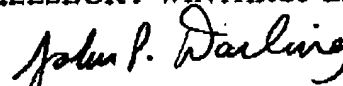
multiplying the enhanced value by a coefficient. Li does not disclose or suggest determining that a pixel is defective and generating a signal by determining that the target pixel has a value larger than a first coefficient times a maximum value or a value smaller than a second coefficient times a minimum value. Accordingly, Li cannot anticipate or render obvious claim 7.

Reconsideration and withdrawal of the rejection under 35 U.S.C. §102(e) over Li are respectfully requested.

In view of the above amendments and remarks, Applicants respectfully submit that all of the claims are allowable and that the entire application is in condition for allowance.

Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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